September 22, 2020

Arizona Corporation Commission
1700 W. Washington Street
Phoenix, Arizona 85007

Re: APS Proposed Residential Energy Storage Pilot: Docket E-01345A-19-0148

Dear Chairman Burns and Commissioners,

This letter responds to APS' Residential Energy Storage Pilot (the "Pilot") submitted as a supplement to APS' 2020 REST Implementation Plan that is set to be heard as Item 44 at this week's Open Meeting. Sunrun is eager to offer our learnings and experience from storage incentive programs across the country to ensure the Pilot's success. We offer these comments to help shape the Pilot into what can be the first step toward realizing the full value that distributed solar and storage can bring to the grid.

As the Arizona Corporation Commission (the "Commission") has acknowledged on multiple occasions, distributed solar and storage can provide a variety of benefits that accrue to both the individual customer investing in the technology, as well as all ratepayers. Individual customers receive the security of clean backup power, as well as the ability to manage utility bills by cycling in accordance with time-of-use ("TOU") rates. Signals provided by TOU rates and other grid services tariffs unlock value that enables all ratepayers to share in the benefits.

The widespread value of distributed solar and storage is no longer theoretical; the technology was utilized for customer-sited load management and backup power during the recent rolling blackouts that plagued California. California's energy regulators called upon the distributed solar and storage industry to modify battery charging and discharging to align with changing system peaks, helping to avoid additional outages.[1] Sunrun was able to simultaneously ensure customers had backup power to endure outages, while responding to grid needs. The industry response barely scratched the surface of what is possible. With appropriate signals and compensation mechanisms, aggregating distributed solar and storage could form virtual power plants large enough to keep the lights on.[2]

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[1] *See* https://www.energy.ca.gov/sites/default/files/2020-08/Joint_Response_to_Governor_Newsom_Letter_August192020_ada.pdf

[2] *See* https://calssa.org/blog/2020/9/4/clean-energy-is-solution-to-blackouts-not-the-cause

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Additionally, distributed solar and storage systems help to address "duck curve" concerns and hosting capacity constraints, easing the integration of distributed solar within the network. This technology also has the benefit of storing energy at the point of consumption, eliminating the line losses and transmission and distribution costs of centralized power generation. Again, these benefits not only accrue to the customer investing in this technology, but all ratepayers as costs decline by avoiding utility infrastructure upgrades.

All of these benefits are aligned with the objectives identified in the Pilot.

The Commission has taken several bold steps to increase the adoption of distributed energy storage over the last several years, including the adoption of commercial and residential rate designs that were intended to support distributed storage. Unfortunately, the results of these various forward-looking actions have not yielded significant participation, with some of these rates attracting no customers, and others attracting very few. We are hopeful that the Pilot can be modified in the following ways to increase its chances of success where these earlier attempts have failed.

- To ensure the Pilot supports Arizona's clean energy goals, supports customer access, and provides APS with the level of insight needed to properly inform future energy storage programs, the payment must be adjusted. APS proposes a payment of $300/kW up to a maximum of $2,500 per home for new storage devices. However, the most popular home battery devices on the market have a 5 kW power rating, meaning, despite the $2,500 cap, most homes would only recognize a payment of $1,500 unless they invested in more than one battery. This is cost prohibitive for most Arizonans, will not have the desired effect of expanding access, and likely will not garner the meaningful participation APS needs to inform the development of grid services programs. Sunrun suggests increasing the payment to $500/kW so more Arizonans can benefit from the full $2,500. This amount is more in-line with incentives offered by neighboring utilities like SRP, and should garner much more significant and diverse program participation to help ensure the Pilot's success.[3]
- The Pilot's program guidelines should clarify that adding distributed storage to existing distributed solar systems ("retrofits") are eligible for participation. Retrofits are an efficient and very valuable way to provide the benefits and grid services highlighted above. Additionally, to ensure broad participation, it should be made clear that retrofit customers are allowed to retain net metering or their locked RCPs.

[3] SRP offers $300/kWh (~$3,000 for 5kW system) with a maximum of $3,600. *See* https://www.srpnet.com/electric/home/batterystorage/default.aspx

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- The Pilot should not be available to existing storage customers, particularly considering the limited budget proposed. To help ensure the Pilot's success and its transition into grid services programs, it should focus on the adoption of new batteries instead of compensating customers for investments they have already made.
- Finally, we encourage the Commission to consider a larger program for such an important Pilot. The proposal suggests that more than one-third of the total funding ($1.2 million) will be used for program administration. To the extent that much of that funding is the fixed cost of establishing the program, we respectfully suggest that there should be proportionately increased funding to support actual battery deployment (above the $1.8 million currently allocated). This will allow more value to be derived from the work that will go into developing the Pilot, and will maximize returns of the program as a larger battery fleet will be deployed. The "attachment rate" of batteries to solar systems today is small, so a focus of the Pilot should be to quickly maximize battery deployment to realize the benefits described above. With $1.8 million allocated to deployment, the Pilot would support the installation of just 1,200 5kW batteries. DG systems are getting deployed at a rate of greater than 1,200 per month in APS territory, meaning at its proposed funding level, the Pilot will not drive sufficient attachment to maximize potential grid benefits. We believe a more robust budget is justified.

Thank you for the opportunity to comment on this important proposal. We are looking forward to working with the Commission and APS to develop programs that will transform Arizona into a leading storage market. Attached is a proposed amendment that approves the Pilot with the changes we suggest in this letter.

Sincerely,

/s/ Jessica Reinhardt
Jessica Reinhardt
Senior Director, Public Policy

See Proposed Amendment Attached

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PROPOSED AMENDMENT

In order to approve the Pilot along with these proposed modifications, the following amendment to the ROO should be adopted.

Purpose: To approve the APS Residential Energy Storage Pilot with modifications to increase the per kW payment, eliminate eligibility for those that have already installed batteries, preserve participating customers' grandfathered status, and consider additional funding.

INSERT Finding of Fact 19:

On August 26, 2020, APS filed a Supplement to its Plan proposing the APS Residential Energy Storage Pilot (the "Pilot"). The Pilot supports the adoption of customer-sited energy storage that can provide a wide variety of benefits to the grid. The Pilot is in the public interest, however, in order to assure the Pilot of a greater chance of success it should be amended to set the payment level at $500/kW and exclude payments to customers that have already installed batteries. Additionally, customers that are adding batteries to existing solar systems shall be entitled to retain their grandfathered net metering, RCP, and rate plan. Furthermore, we are concerned that the total budget may not support enough battery attachment to new DG solar systems and will review the total budget when it is brought forward in the Company's 2021 DSM Plan.

INSERT new Ordering Paragraph:

IT IS FURTHER ORDERED the Pilot is hereby approved as proposed in the Supplement with the following modifications:

A. The payment level is fixed at $500/kW;

B. The payment is available for all new energy storage systems;

C. Customers that are adding batteries to existing solar systems shall be entitled to retain their grandfathered net metering, RCP, and rate plan; and

D. The total size of the budget shall be addressed in the Company's 2021 DSM Plan.

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